REMARKS

Claims 1-3, 5-7 and 9-25 are pending in this application. By this Amendment, claims 21-25 have been added.

Applicants appreciate the courtesies extended by Examiner Siconolfi to Applicants' representative during the May 18, 2004 personal interview. The points discussed are incorporated into the Remarks below and constitute Applicants' record of the interview.

Claims 1-3 and 5-20 were rejected under 35 U.S.C. §103(a) over Matsuo et al. (Matsuo), U. S. Patent No. 4,629,043 in view of Walenty et al. (Walenty), U. S. Patent No. 5,139,315. Applicants note that claim 8 was previously cancelled. The rejection is respectfully traversed.

Matsuo and Walenty fail to disclose or suggest a vehicular parking brake apparatus wherein an antilock control portion commonly controls the operating force of the transfer member train based on the state of slip of the wheel of the right-side wheel and the left-side wheel that exhibits a greater slip and a controller that includes a stroke control portion that controls the operating force of the transfer member train so that a drive stroke approaches a target stroke determined based on the state of slip of the wheel as recited in claim 1 and as similarly recited in claims 7, 9, 17, 18 and 19.

Matsuo discloses a parking brake system that uses a cable 5 to control brakes 3, 3. As admitted on page 2 of the Office Action, Matsuo does not disclose controlling wheels based on a state of slip of one of the wheels. In fact, Matsuo fails to disclose or suggest this feature because Matsuo is only concerned with the operation of their braking system based on the gradient of a road (col. 2, lines 15-41).

On page 3 of the Office Action, the Examiner contends that the combination of Matsuo and Walenty has stroke control as an inherent feature. The Examiner then states that the braking force in the cable device like Matsuo is controlled by the amount of cable that is

retracted. The Examiner concludes by stating that automatically controlling the force, as Matsuo does, involves automatically controlling how much cable is retracted. This reasoning is incorrect in disclosing or suggesting Applicants' claimed invention and represents a misunderstanding of Applicants' claimed invention.

As discussed during the personal interview, the controller 11 produces a brake-application command signal A or a brake-release command signal B to the motor 6 based on various signals C-K (col. 4, lines 19-22). None of these signal includes a drive stroke signal. The amount of brake force required is based on a characteristic curve as shown in Figs. 6 and 8 and the torque of the motor 6 is compared with the preset brake force (col. 5, line 53- col. 6, line 2 and col. 6, lines 18-50). Controlling the torque of the motor 6 based on this preset value for the brake force, that is determined by a characteristic curve, is unrelated to controlling the operating force of a transfer member train as recited in Applicants' independent claims. The two aspects are unrelated because the torque of the motor 6 in Matsuo is controlled without paying attention to the state of the cable 5.

In fact, Matsuo suffers deficiencies that Applicants' claimed invention overcomes. Applicants' claimed invention is advantageous over Matsuo in that the accuracy of the brake control is improved and an overshoot phenomenon in the brake control is avoided. Applicants obtain this advantage by controlling the operating force of the transfer member train so that a drive stroke approaches a target stroke rather than controlling the torque of the motor 6 as in Matsuo.

Accordingly, Matsuo fails to provide any teaching, suggestion or motivation to control the state of slip. Furthermore, Matsuo fails to provide any teaching, suggestion or motivation to control a stroke such that a drive stroke approaches a target stroke that is determined based on the state of slip of the wheel. Applicants' claimed invention is advantageous in that the amount of slip is within a predetermined range so that braking control is accurate and the

overshoot phenomenon in the brake control is avoided. Applicants achieve this advantage by controlling the drive stroke so that it approaches the target stroke. Accordingly, there is no teaching, suggestion or motivation to combine Matsuo with another reference, in particular Walenty, in order to provide a braking system that controls a brake based on a state of slip or to provide a transfer member train that is controlled as recited in Applicants' independent claims.

Like Matsuo, Walenty also fails to disclose or suggest Applicants' transfer member train because Walenty individually controls brakes. In other words, Walenty fails to disclose or suggest a transfer member train because a transfer member train is not required for individually controlled brakes. Again, only the torque of Walenty's motor is controlled.

Walenty discloses a vehicle parking brake system that individually controls the rear brakes. In Walenty, only the right rear wheel 14 is illustrated with the braking of the left rear wheel identical in form (col. 2, lines 22-25). Each wheel includes an electrically operated brake 16 that is controlled by a controller 18 (col. 2, lines 25-35). The controller 18 controls a current to the torque motor of the electrically operated brake 16 so as to establish a braking pressure proportional to the pressure applied by the operator to the brake pedal 12 (col. 2, lines 35-42). In order to avoid slip, Walenty provides the routine of Fig. 3. This routine is repeated once for each wheel during each control cycle using the parameters associated with the selected wheel (col. 5, line 68 - col. 6, line 3).

Accordingly, Walenty fails to provide any disclosure or suggestion with regard to controlling the operating force of a transfer member train so that a drive stroke approaches a target stroke. Walenty fails to provide any disclosure or suggestion because Walenty individually controls each wheel 14. Also, each wheel 14 is braked by an electrically operated brake 16 that is attached to each wheel 14. As such, there is no logical reason for

Walenty to provide a transfer member train or to control a transfer member train so that a drive stroke approaches a target stroke based on the state of the slip of the wheel.

Walenty also fails to provide any disclosure with regard to an antilock control portion that commonly controls the operating force of a transfer member train based on the state of slip of the wheel of the right-side wheel and the left-side wheel that exhibits a greater slip. Walenty is only concerned with controlling individual brakes. It is neither taught nor suggested, nor is their any motivation in Walenty, as to how Walenty's routine of Fig. 3 can be modified so that it can be applied to Matsuo's braking system which uses a cable 5 to control brakes 3, 3. Walenty only uses parameters associated with a currently selected wheel. In other words, the amount of slip in one wheel in Walenty does not control the driving of the drive power source for the other wheel.

Assumingly, Matsuo is aware that slip can occur. However, Matsuo chose not to discuss how slip is controlled. As asserted by the Examiner, the wheels must be controlled based on the state of one wheel since it is physically impossible to control the wheels separately. Again, Matsuo chose not to discuss slip and the Examiner has yet to apply a reference that commonly controls the operating force of a transfer member train based on the state of one wheel or slip. Accordingly, it is not well known, contrary to the Examiner's suggestion, to control the braking force based on the wheel that exhibits the greater slip.

As such, Applicants assert that neither Matsuo nor Walenty disclose or suggest all of the features recited in Applicants' claims 1, 7, 9, 17, 18 and 19. In addition, claims 2, 3, 5, 6, 10-16 and 20 recite additional features of the invention and are also believed to be allowable at least for the reasons discussed above with respect to claims 1, 9 and 19 and for the additional features recited therein. It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-3, 5-7 and 9-25 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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